2.7. Will a reduced installation fee be available for apartments or condos? (7/27) - The estimated installation fees are averaged over all types of dwellings. As a result, the estimated fees for the trial are the same for apartments and condos as for single family homes. Since actual fees will be based upon actual costs, if actual costs for the trial are lower as result of cost savings associated with multi-unit complexes such as an apartments, condos, or townhouses (e.g., potentially due to such complexes being pre-wired for service from a common demarcation point), installation fees could potentially be lower for all trial participants.

2.8. If I start with 10 Mbps service, can I later upgrade to the 100 Mbps later for a small fee? (7/27) - Participants will be able to upgrade from the 10 Mbps service to the 100 Mbps service; however, we have not yet established an upgrade fee. It is anticipated that the amount of the upgrade fee would be close to the difference between the installation fee for the 100 Mbps service and the 10 Mbps service, or approximately $1,200.

2.9. If my home is rebuilt after I have a fiber connection installed, how much will it cost to reestablish the fiber connection? (7/27) - Any fees levied would likely be much less than $1200, although we have not yet established a reconnection fee.

2.10. How will this service compare to other connectivity options? (7/16) - At 10 Mbps, the slower of the two service options, local connectivity would be dramatically faster than all other options that are currently available, with speeds that are roughly 200 times faster than standard modems and 10-100 times faster than the typical throughput of cable modems (which utilize existing cable television infrastructure) or ADSL modems (which utilize existing telephone infrastructure). This type of speed makes possible applications that are not otherwise feasible with standard modem technologies. For example, at 10 Mbps, an entire encyclopedia or a typical VHS-quality movie can be transmitted in less than an hour, rather than requiring several days as would be the case with a standard modem. Access at 100 Mbps would reduce the time required for such a transmission to a few minutes. High quality video or audio streams can also be accessed on demand in real time.

2.11. How does this differ from the existing dark fiber service? (7/16) - The City of Palo Alto Utilities' existing dark fiber service provides customers with dedicated fiber(s) between two or more points. The customer or the customer's service provider is responsible for installing and operating all electronic equipment necessary for communications. With the fiber to the home trial, the City of Palo Alto Utilities will install and operate the switching equipment necessary to interconnect participants and aggregate traffic in neighborhoods to utilize the tremendous bandwidth potential associated with fibers used on the existing fiber backbone. Connections costs can then be shared by a number of participants, resulting in a more affordable residential data transport solution.

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UTILITIES

CITY OF PALO ALTO LINKS

City of Palo Alto Utilities
Fiber to the Home Trial
Answers to Frequently Asked Questions

Note: The information contained in this document represents the current view of the staff of the City of Palo Alto Utilities. Because the project has not yet been approved by the City Council and the network design has not yet been finalized, it should not be interpreted to be a commitment on the part of the City of Palo Alto.

3. Technology Questions

3.1. What technology will be used? (7/16) - A number of strategically placed switch locations will be interconnected via the City of Palo Alto Utilities' existing Palo Alto Fiber Backbone. Fiber connections will be extended from these switch locations to participant's homes. Low cost "media converters" developed for fiber to the desk applications will be used to interface with the fiber. Standard office grade network equipment will be used to deliver TCP/IP service over a full duplex, switched Ethernet network. You will connect your 10-Base-T or 100-Base-Tx compatible computer, hub, or other networking device into an RJ-45 port on the media converter.

3.2. Why Fiber to the Home? (7/16) - Fiber to the home is believed to be the best network design approach for Palo Alto for a number of reasons, some of which are listed below:

- *"Future proof" cable plant* - Due to the extremely high bandwidth potential of fiber, replacement of the core cable infrastructure can be avoided for 30 or more years. As more bandwidth and capabilities are required, only the electronics at each end need to be upgraded. This will lead to substantial long-term savings.

- *Negligible environmental impact* - If existing public facilities can be used to house electronic switching equipment, the network will not require any new cabinets or pedestals to be sited. Because of the short distances involved, the fiber will not require any amplifiers. Thus, electronics can be limited to customer premises and indoor switch sites.

- *Lowest operating costs, highest quality, and highest reliability* - Because intermediate amplifiers and switching equipment do not need to be deployed in neighborhoods, these potential points of failure and sources of signal degradation are eliminated. Fiber is also immune to electrical interference.

- *Capability for multiple service providers* - Depending upon the design of the network, there are a variety of ways in which multiple providers of Internet and other services could be supported.

3.3. Why Ethernet and TCP/IP? (7/16) - These are the fundamental technologies underlying the vast majority of data networks currently in operation, including the Internet. This will place Palo Alto residents on the same networking technology path as universities, corporations, and other organizations throughout the world. Due to the vast quantities of LAN equipment that have already been deployed on a global scale, equipment costs are low and a technology evolution path is assured.

3.4. Will collisions limit performance if the network is congested? (7/16) - No. By using full duplex Ethernet switches rather than half duplex Ethernet hubs, collisions are avoided entirely. Thus, there will be no collisions to limit performance.

3.5. Do Ethernet's distance limitations prevent it from being used in this type of application? (7/16) - No. By using full duplex Ethernet switches over fiber optic links, distances of up to 2 kilometers can be supported with standard electronics; longer distances can be supported with more specialized electronics. Given that the Palo Alto Fiber Backbone is within 2 kilometers of nearly every address in Palo Alto, distance limitations will not be a problem.

3.6. Was Ethernet Invented in Palo Alto? (8/24) - Yes. The original Ethernet was invented here twenty-five years ago by Bob Metcalfe, David Boggs, Charles Thacker, and Butler Lampson at Xerox's Palo Alto Research Center.

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Tacoma Public Utilities
Tacoma, Washington

Advanced Fiber Network

Tacoma Public Utilities in Tacoma, Washington, is constructing a hybrid-fiber telecommunications network, 750 MHz, fully two-way activated. It is loop designed for service continuity and 100% backup powered. In addition, its has a SONET business network designed for high quality, high speed business applications. Finally, it is constructing a institutional network for the City of Tacoma, at their expense, which will serve government and public safety facilities, schools & libraries.

First and foremost, the utility will use this network for advanced energy services such as network and substation monitoring, smart meter applications and transmitting data for least cost power purchasing.

Broadband Cable Service

Additionally, the utility has elected to build and manage a cable television business, which launched during the summer of 1998. The cable service offers over 80 channels of video programming and 31 channel of digital music and serve 700 customers to-date. The utility has also connected business customers, on a point-to-point basis, for high speed data transport. Tacoma intends to expand that aspect of its business as it gets the necessary approvals to enter into agreements with other telecommunications providers which will provide reach beyond the City limits of Tacoma. Finally, the utility is in the process of establishing the necessary partnerships to bring broadband, cable modem access to the Internet to its customers.

ATTACHMENT B

Statement of William E. Kennard

Chairman
Federal Communications Commission

on

The Telecommunications Act of 1996 --
Moving Toward Competition Under Section 271

Before the
Subcommittee on Antitrust, Business Rights, and Competition
Committee on the Judiciary

United States Senate

March 4, 1998

Mr. Chairman and Members of the Subcommittee.

Thank you for the opportunity to testify before the Subcommittee today. I appreciate the opportunity to report on the Federal Communications Commission's progress in fulfilling one very important aspect of the mission entrusted to us by Congress and the American people, that of overseeing the entry of the Regional Bell Companies into interLATA long distance service. Just over two years ago, when Congress passed the 1996 Telecommunications Act, the BOCs were directed to open their local telephone markets to competition as a precondition to entry into the interLATA long distance market, thereby providing the American people with the benefits of increased choice and competition in all telecommunications markets. I am here to report that we have embraced this complex and difficult responsibility, and that, in spite of delays caused by litigation, significant progress is being made.

There has been a flurry of activity since Congress passed the Act two years ago: the states have approved hundreds of interconnection agreements between incumbents and competitive carriers entering the local market; new entrants have been able to raise more than 14 billion dollars from the public markets to fund their entry into local telephony; and, in New York City, over 20% of the business market is being served by carriers other than the incumbent Bell Company. Clearly, a lot of progress has been made, though I do not come here to announce my satisfaction with the pace of competition. The pace of competition in local markets should accelerate. I would like to discuss with you today some possible strategies for speeding competition's pace.

The Goal is Consumer Choice in All Markets

The goal of the 1996 Act is to open telecommunications markets to competition. Consumers deserve to have a real choice among carriers. This means we have to eliminate barriers that discourage entry by new competitors, and eliminate barriers that discourage subscribers from switching between carriers.

Common sense tells us that competition is only truly working where real consumer choice is present and where the consumer is able to exercise certain fundamental rights. I have attempted to articulate these rights, which are consistent with the statutory provisions of section 271, in what I call a Consumer Bill of Rights:

1. Consumers must ultimately have the right to choose providers -- from as wide a variety of providers as the market will bear.

2. Consumers must be able to move seamlessly, without obstruction or delay, from one provider to another.

ATTACHMENT C

105th Congress
1st Session

COMMITTEE PRINT

S. PRT. 105-25
Part 1

COMPETITIVE CHANGE IN THE ELECTRIC POWER INDUSTRY

PRINTED AT THE REQUEST OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

MAY 1997

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II. WHAT IS THE ROLE OF PUBLIC POWER IN A COMPETITIVE ENVIRONMENT?

THURSDAY, MARCH 13, 1997

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 10:42 a.m. in room SD–G50, Dirksen Senate Office Building, Hon. Frank Murkowski, chairman, presiding.

OPENING STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR FROM ALASKA

The CHAIRMAN. We will call the workshop to order.

I apologize, ladies and gentlemen—we have one lady with us, I see—for delaying this process. Hopefully you have had an opportunity to observe the process of democracy in action. Some say it is like making sausage and they would rather not watch it, but you just saw it.

So let me turn now to our original purpose for the assembly here. I first would note that this used to be the—well, this used to be the Senate intelligence room, if there is any significance to that, and what we are going to get for the record, well, I will leave that to the participants. But today we are focusing on the roll of public power in a competitive market.

Now, I have no pride of authorship in the process at this point. Senator Bumpers has introduced a bill, so he obviously has that pride. I prefer this process of a workshop to develop input from the people who have to deal with providing this Nation with power, and I might add, unfortunately, your particular industry is probably more taken for granted than any other single industry that exists in this country, because it always works. The lights are always on. It is almost an entitlement like nothing else that I can think of.

Hopefully from this workshop process we can develop a procedure to go as far as we can in making some significant corrections, moving some of the Federal impediments that stand in your way, whether it be investor-owned or public power, provide more competition, and provide a reduction for the ratepayers through greater efficiency. That is if everything were in an ideal world.

So we work from a workshop, get your ideas, get your input, you tell us what you need to do to compete in a changing marketplace, and it is a changing marketplace.

Now, I have called on one of my colleagues, Senator Thomas, to chair this hearing, because he has special expertise. If you were

talking about credits and money and past-due loans, why, I probably have something to offer, but before Senator Thomas came to the Congress, Senator Thomas was the State-wide manager of the Wyoming Rural Electric Association. So sometimes it is dangerous to have one who knows a little bit more about your business than you might think. They say a little bit of knowledge is dangerous, Senator Thomas has a lot, I am not sure if that is good or bad, but that is going to be determined by the leading questions that he is going to ask you, and I know your competitors are right behind you picking up on every word.

Before I hand the gavel over, let me say a few things about the electric debate relative to public power. And I am sure that my presumptions, so to speak, you have some counters to them, but I think that there is a general assumption that public power has some advantages, whether it is the exemption from corporate income taxes or the ability to issue tax-free municipal bonds or access to low-cost Federal power marketed by the Federal PMA's. Some of that is not low cost anymore, not subject to utility regulations by State public utility commissioners and by the FERC, even. FERC's wholesale open access, Order No. 888, does not apply to transmission lines owned by public power. And cooperative utilities have access to low-cost Federal loans. You play a very major role in the production of power that is utilized in this country.

Private power, likewise, as you are going to point out to me, has a number of special advantages and provisions under the Federal tax code that are not available to public power, and those are legitimate questions, and we want to hear from you on those today.

The question facing the committee is not really are these special advantages good or bad. Instead, the question facing the committee is how can we create an environment where there is fair competition between public and private power? I guess perhaps even more troublesome is that some Federal utilities are now interested in using their advantages, if they are assumed to be advantages, to compete aggressively against private investor-owned power. That is both good and bad, depending on your definition of what is good and bad. TVA has asked, as I understand it, to be allowed to go outside its so-called fence, for reasons, very good reasons, undoubtedly. Bonneville Power asked for and was recently given authority to sell its Federal power outside the Northwest in competition against independent power producers and private utilities.

Now, whether or not there is Federal competition legislation, I am concerned about having the Federal Government go into competition against private industry. That is just a basic philosophy of mine. That is the bottom line.

We have before us a distinguished panel of witnesses who will educate us on these difficult issues and give us their solutions. I know some of the members cannot be here, but they will be in and out, and I know their staffs are very attentive. I would like to have you answer out of this, if you will, Senator Thomas, a bottom-line question that I have, and that is can we have deregulation where public power and investor-owned power utilities compete on a level playing field. I would hope that that would be one of the questions that we could get your opinions on, and as you know, the lights are on. The other alternative to the lights being on is the lights are off.

...s nothing in between. It is just like the way we have to vote. ... cannot vote maybe. So please do not overly qualify your an... my question.

... announce that we will try to conclude this session by ... p.m. And, Senator Thomas, it says here, at least, has ... to stay until 1. Are you on a lenten diet?

Senator THOMAS. Yes, I am today.

The CHAIRMAN. At least until 1. So I am going to sit over here ... listen, and I am going to ask you to come sit next to Senator ... And you will have as many cushions as he does. I see ... stole Senator Ford's cushion. We each have two now, if you ... to grab another one.

Senator BUMPERS. No, this is fine.

The CHAIRMAN. All right. You will be king of the mountain.

STATEMENT OF HON. CRAIG THOMAS, U.S. SENATOR FROM WYOMING

Senator THOMAS [presiding]. Thank you all for coming. I am ... we are getting started so late. Thank you, Senator Murkow... This is the second in a series of workshops designed to talk ... how we ensure fair competition in the electric utility indus... And certainly, we all agree there will be some change. The ...estion is how much. Obviously, there are different views.

There are some who think all monopolies are outdated and we ...ght to get rid of them and move on to whatever happens, there ...re those who do not want change at all, and there are those who ...ccept, and I think properly, the fact that there are going to be ...hanges and we should make an effort to ensure that all customers ...benefit from that, as well as investors and others.

One of the major issues is the role of the Federal Government versus the role of State government. You all know that the States are moving. We are here to talk about the role of member-owned and nonprofit utilities, as well as public power. There is a difference between the two.

We have talked about some of the guiding principles. Who is going to benefit from competition; what do we do, and who pays for stranded costs; will everyone be served; what are we going to do with low-density areas, will there be a great deal of attention to serve there; will competition focus entirely on large businesses?

I come from a small State. We have had some experience in deregulating the airlines and telecommunications industries where it has not been very beneficial. It is cheaper to fly from Denver, Colorado to Washington, DC than it is from Casper, Wyoming to Denver, Colorado. These are the kinds of things we have to examine, and the committee is delighted to have you here.

Let me call on the ranking member, Senator Bumpers.

STATEMENT OF HON. DALE BUMPERS, U.S. SENATOR FROM ARKANSAS

Senator BUMPERS. Mr. Chairman, the chairman of this committee raised a very important question a moment ago, and that is: can we have investor-owned utilities and municipal and cooperative utilities who have had considerable favorable treatment by the Government compete on a level playing field? And while there are

many issues involving Government-generated power or power generated by those who have close relationships with the Government such as the PMA's, the question really is should they be included, should they not be included, and a whole host of other related subjects.

Today's topic is what is the role of public power in a competitive environment. There are more than 2,000 municipal electric utilities and nearly 1,000 rural electric cooperatives operating in the United States. They sell more than 25 percent of all the electricity consumed in this country. And we want to examine the impact that retail electric competition will have on the vital functions that public power serves.

Almost every member of this committee, if not all of them, represent States with substantial rural populations. It is difficult to imagine where rural America would be had it not been for the rural electric administration and the rural electric coops. I have probably made more speeches to rural coops than any other group in my 26 years in public office. And I do not think I have ever missed an opportunity to say that I have been a great champion of public power.

There was a time when I tried to get every dam on the Arkansas River generating power. But of course, back in those days there were a lot of people that had never given up on the fact that TVA was a communist conspiracy. So it was very difficult to talk sense back then. And it was only after the Arab oil embargo that people began to talk sense about that.

But the main point I made in all those speeches was that my father, who was a small-town merchant, saved his business, he was able to sell refrigerators and radios and other electrical appliances to rural people who had never had that opportunity. So in addition to all of these, for many years the municipal utilities provided the only competition available in an industry dominated by the monopolies.

I have always considered myself as a supporter of public power, and I have never apologized for it. My legislation, the Electric Consumers Protection Act of 1997, subjects all utilities, including muni's and coops, to retail competition no later than December 15, 2003. I have heard from a number of publicly owned utilities, including some in my State, that would prefer the option of choosing not to be subject to competition in exchange for not being able to sell power outside their current service territories. Several States have adopted this position in their restructuring bills. This is a proposal that deserves consideration by this committee, although I am troubled about the prospect of segmenting electrical markets, where some customers have choice and others do not.

Mr. Chairman, I know it may be tempting for some to raise the specter of selling the power marketing administrations, and it is every Senator's prerogative to raise any issue they want. But I must say I am troubled that some utilities argued they should be compensated for their stranded costs, a concept with which I disagree because of the so-called regulatory compact. Some of these same utilities object to the compact the Federal Government entered into with municipalities and cooperative utilities to pay for the cost of Federal water projects such as PMA's in exchange for

hydro power. I am sure these utilities do not want us to abrogate these solemn contracts.

Mr. Chairman, I thank you for this opportunity.

Senator THOMAS. Thank you very much. I hope members will limit their comments, and submit any statements, if you have them, so we can move on.

Senator Nickles.

Senator NICKLES. I will pass.

Senator THOMAS. Senator Dorgan.

STATEMENT OF HON. BYRON L. DORGAN, U.S. SENATOR FROM NORTH DAKOTA

Senator DORGAN. Let me associate myself with the comments of Senator Bumpers. I am an unabashed supporter of public power, the rural electric coops, and I am anxious to hear these discussions.

Senator THOMAS. Senator Gorton.

STATEMENT OF HON. SLADE GORTON, U.S. SENATOR FROM WASHINGTON

Senator GORTON. Thank you, Mr. Chairman. I welcome this panel, and particularly a representative from my own State, the questions that come from that part of the country that benefits from vigorous competition between publicly and privately owned utilities and relatively low rates. Its interest in this process is high, and our fundamental questions are to what degree can a new and different and competitive market benefit our ratepayers as well as those in other parts of the country.

We, of course, have our very special concerns with respect to the Bonneville Power Administration. We are unfortunately still faced with the shibboleth or the ghost of the idea that somehow or another the Bonneville Power Administration can be sold. When I look at the huge debts that it has, both in connection with failed nuclear plants and its own plant, together with the fish costs we are imposing on it, my own impression is that if it were to be sold with all of those debts it would have a negative net worth, or very close to that. And, of course, its responsibilities extend far beyond power, to fish, to flood control, to transportation, to irrigation and the like.

So I hope that even here our witnesses will observe the fact that there is a very significant Northwest representation on the committee. Talk to issues that may be likely to happen, and not to those that will not.

Senator THOMAS. Thank you, Senator.

Any further comments?

STATEMENT OF HON. TIM JOHNSON, U.S. SENATOR FROM SOUTH DAKOTA

Senator JOHNSON. Yes. Mr. Chairman, I will submit a full statement for the record, and I will be very brief. I want to thank you for chairing this workshop this morning. I will not be able to stay through the workshop, but I do appreciate the presentation. My staff will be here, and I think the contribution will be very constructive this morning.

I am hopeful that today's presenters will focus on the role of public power in the electricity restructuring debate, and not on past battles such as the need for sale of the PMA's. Further, I am assuming that any discussion of leveling the playing field will include a thorough review of all of the programs from which different utilities benefit, any unique regulatory treatment for certain types of utilities, and each of the financing options available to utilities for various needs.

I share in my colleagues comments that rural electric coops will continue to be an important factor in the economic development of their communities, and in many cases they are in fact the best equipped to work to ensure small communities remain viable and continue to keep medical facilities, schools, and other services available. I am convinced that the importance of rural electric coops will continue to grow.

In general, I am concerned about adverse impacts on rural America by major changes in the delivery of electricity, especially if those changes occur too quickly and before the long-term impacts have been fully analyzed. What sound good in theory may not work in the real world, especially in rural America, where the delivery of electricity to everyone is sometimes challenging, but absolutely critical to providing the quality of life that all Americans expect and deserve.

Our experiences in rural America with the deregulation of other industries, such as the airline industry and most recently the telecommunications industry, have made South Dakotans understandably somewhat skeptical about the perceived benefits of restructuring or deregulation of any major industry on which we depend. During consideration of any legislation designed to restructure or deregulate the electric utility industry, I will be guided by the principles of whether this is, in fact, in the best interests of rural America. And this certainly focuses my attention on ensuring that a solid public power system remains in place.

And I thank you, Mr. Chairman.

[The prepared statement of Senator Johnson follows:]

PREPARED STATEMENT OF HON. TIM JOHNSON, U.S. SENATOR FROM SOUTH DAKOTA

Thank you, Mr. Chairman. While I will not be able to stay to participate in the entire workshop this morning, I appreciate the opportunity to listen to some of today's presentations. I am optimistic that this workshop will help educate members of this committee and all participants in this discussion about the critically important role and necessity of our current public power system.

Additionally, I am hopeful that today's presenters will focus on the role of public power in the electricity restructuring debate and not on past battles fought such as the need for the sale of the PMAs. Further, I assume that any discussion of "leveling the playing field" will include a thorough review of all of the programs from which different utilities benefit, any unique regulatory treatment for certain types of utilities, and each of the financing options available to utilities for various needs.

I strongly support the rural electric program and have actively worked to oppose various efforts in recent years to eliminate or radically redesign this nation's commitment to public power. I plan to continue those efforts during any deliberations or action concerning the restructuring of the electric power industry. If this debate is truly about "choice," we must preserve the ability of consumers to choose to be served by public power systems.

Rural electric cooperatives will continue to be an important factor in the economic development of their communities and, in many cases, they are the best equipped to work to ensure small communities remain viable and continue to keep medical

facilities, schools and other services available. I am convinced the importance of rural electric cooperatives will continue to grow.

In general, I am concerned about adverse impacts on rural America by major changes in the delivery of electricity, especially if those changes occur too quickly and before the long-term impacts have been analyzed. What sounds good in theory may not work in the real world, especially in rural America where the delivery of electricity to everyone is sometimes challenging but absolutely critical to providing the quality of life that all Americans expect and deserve.

Our experiences in rural America with the deregulation of other industries, such as the airline industry, and most recently the telecommunications industry, have made South Dakotans understandably skeptical about the perceived benefits of restructuring or deregulation of any major industry on which we depend. During consideration of any legislation designed to restructure or deregulate the electric utility industry, I will be guided by the principle "is this in the best interest of South Dakota and rural America?" and this certainly focuses my attention on ensuring that a solid public power system remains in place.

Thank you, Mr. Chairman.

Senator THOMAS. Senator Landrieu.

STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR FROM LOUISIANA

Senator LANDRIEU. Mr. Chairman, in light of the short time and the excellent panel we have, I am just going to submit my comments to the record and thank you for your patience this morning.

[The prepared statement of Senator Landrieu follows:]

PREPARED STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR FROM LOUISIANA

I would like to thank the Chairman for having this workshop today on the role of public power in a competitive market.

As a newcomer to the Senate and to the Energy Committee, I have had the serendipity to embark upon my journey, my maiden voyage if you will, with two complex and revolutionary issues: Electric Restructuring and the Nuclear Waste Debate. Some might say these are unenviable tasks for a new member, but both hold enormous meaning for the American consumer. The one I have heard the most from constituents on, and will for some time I'm sure, is electricity deregulation and competition.

Throughout the debate on restructuring and competition, a single mantra has emerged as the guiding principle on this issue: consumers should have access to the lowest priced electricity available. To do this, we must lessen the burden on producers. But in order to get there, we have a long journey ahead—a lot of concerns to address, some that we probably aren't even aware of yet. Those we are familiar with pose significant questions.

First, take the current situation. States like California, Rhode Island and Pennsylvania have already taken the giant step towards competition on their own terms. Others like New Hampshire and Michigan are in the midst of litigation over the issue. Soon there will be a patchwork of state schemes. Without commenting on how or if we should impose a Federal framework, I can tell you this is something that must be looked at extremely closely in any legislation we consider, especially as we attempt to heed the calls for a level playing field.

Second, there is the issue of cost recovery. The Federal government's policies over the years have encouraged many utilities to make enormous investments in electricity generation facilities. Although the debate rages over whether taxpayers should help deal with stranded costs, it cannot be denied that this is an issue we must deal with effectively to prevent a bankrupt industry.

Then you have questions about the reliability of supply in a competitive market. Louisiana has 12 electric cooperatives that serve over 320,000 homes and businesses in 55 of the state's 64 parishes. The vast majority of these consumers are residential and small business owners. My constituents in Louisiana have contacted me in large numbers relating concerns about reliability in a competitive market and about customer protections in general. They have also contacted me about how changes in electricity prices can have a profoundly positive effect on the economy. No one here knows more how important this can be to a state like Louisiana.

In closing, I state for the record that I am in favor of competition. Competition is a time honored tradition in this country. We have made it work for natural gas,

ATTACHMENT D

Hearings on S.1822 Before the Senate Committee on Commerce, Science and Transportation, 103d Cong., 2d Sess. 351-60 (1994)

A&P HEARINGS S. 1822
Hearings, 103rd Cong., 2d Sess.
(Cite as: A&P HEARINGS S. 1822)

Arnold & Porter Legislative History: P.L. 104-104

HEARINGS

S. 1822, THE COMMUNICATIONS ACT OF 1994

HEARINGS BEFORE THE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

UNITED STATES SENATE
February 23, 1994 and

March 2, 1994 and

March 17, 1994 and

May 4, 1994 and

May 11, 1994 and

May 12, 1994 and

May 18, 1994 and

May 24, 1994 and

May 25, 1994

*II COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ERNEST F. HOLLINGS, South Carolina, Chairman

Hearings on S.1822 Before the Senate Committee on Commerce, Science and Transportation, 103d Cong., 2d Sess. 351-60 (1994)

*351
STATEMENT OF WILLIAM RAY, GENERAL MANAGER, GLASGOW ELECTRIC PLANT BOARD

Mr. RAY. I can certify that I will be a similar nonexpert, Mr. Chairman.

As you stated, I am William Ray. I am the superintendent of the Glasgow Electric Plant Board in Kentucky. I am testifying today on behalf of the American Public Power Association. As you know, APPA is the national service organization representing more than 1,750 local public power systems throughout the country.

APPA supports S. 1822. We think it is an excellent starting point for the development of the national information infrastructure. And while there are many provisions, from APPA's perspective, there two sections of 1822 that deserve special mention and that we are especially happy with. Section 103 that requires all telecommunications carriers that use public rights-of-way to offer preferential rates to a range of public institutions, including State and local governments, and section 302, which recognizes the right of electric and other utilities to provide telecommunications services.

Now, that is a giant step there. The first will benefit citizens in every community throughout the country. The second provision explicitly recognizes the legitimate role and interest electric utilities have in developing the national information infrastructure.

APPA has some suggestions for improvements to the legislation. Specifically, we recommend that section 302 be amended to specify that any usual, customary, and nondiscriminatory fees or conditions imposed by State or local government on the use of public poles, conduits, ducts, and rights-of-way, are not considered to be barriers to providing interstate or intrastate communications. And that section 302 also be clarified to ensure that the provision prohibiting unreasonable discrimination among telecommunications carriers by State and local governments is not construed to prevent or impair the leasing of excess capacity from a publicly owned communications system on a private carriage basis.

Now, all electric utilities, whether owned by units of State or local government, organized as electric cooperatives, or owned by private investors, are ideally positioned to play a role in the construction of the NII. Electric utilities have the infrastructure in place to develop the NII. We have the ethic of universal service.

We have the killer application and, you know, that is what most of the phone companies and the cable companies are out casting for. We have got it, and that is deferring the construction of new generating plants because we use this information system to make what we have got work better.

Through our participation we can *352 inject an additional element of competition in the delivery of telecommunication and information services.

While all electric utilities have telecommunications needs, the manner in which these needs are met differs greatly among different public power systems. Now, some public power systems will lease communications facilities from others, some will build facilities simply to meet their own communications needs, still others will build facilities with excess capacity and lease that capacity to third parties.

And, finally, some will do like Glasgow has done, and see telecommunications services as just an extension of other utility services such as electric, water, and sewer, and we will sell the services directly to the consumer. No matter what course they pursue, APPA's goal is to ensure that legislation ensures equal and fair access to the information superhighway and will not impose unreasonable or unjustified obstacles in the path of potential developers of the NII, including, of course, public power systems.

APPA members bring additional assets to the table. Perhaps the most important of these is the very real, competitive pressures we have injected already in the electric utility industry and which we are likely to add to the telecommunications industry. I would like to summarize briefly the benefits that my community has enjoyed from my utility's entry into the field of telecommunications.

We built our system initially to do demand-side management, and actually not just demand-side management, but to better operate our electric utility and, quite bluntly, to decrease the bite that TVA took out of my community every month in the form of the wholesale power bill. We have proven, just with crude experimentation in a small town in south central Kentucky, that 2- or 3-KW-per- home reduction in peak demand is achievable.

Now, that is what I call the killer application. You know, in terms of replacing that reduction in demand with construction of generating capacity, that is a value, depending on what part of the country you are in, of $3,000 or $4,000 per home.

We also, while we were building our system, put competitive cable television service on it. You have heard that story before, although I like to tell it. The competition for cable TV in Glasgow has resulted in rates-whether you subscribe to the municipally owned system or the privately owned system, that average $18 a month less than what you are going to pay in a community where there is no competition. So, we consider that a success.

We forgot to worry about all the potential problems that might arise from developing competition. We just went ahead and did it. We have now been able to introduce competition for telephone service. We use our same system to offer, as far as I know, the only competitive dial tone in the country, where the people in Glasgow can buy their dial tone from GTE or they can buy it from the city of Glasgow. It is too early to tell exactly what the results of that competition are going to be, but if our history of competition in cable television is any predictor of the future, we think the benefits will be significant.

We sell data service. We can-any home in town can access a local area network with speeds approaching what the telephone company calls T-1. The telephone company calls it T-1 and generally *353 charges $1,000 or $1,200 a month for it. We charge $19.95 for it.

We have also been able to synchronize all our traffic signals in town, which really adds the possibility of demand-side management for a whole different area of services. Demand-side management is not just for electric utilities. By synchronizing all the traffic signals in town and improving traffic flow, we have learned how to do demand-side management on our streets and highways.

There is another option. When streets are crowded you do not always have to build wider streets; you can figure out a way to reduce the demand and get some of the vehicles off. And that is what close synchronization of traffic signals can do, and that is just what we have discovered in Glasgow with our crude system and using our own money to try to do R&D. And we think that is only scratching the surface of what competition can do, and I just want to, again, reiterate our joy that this bill specifically recognizes electric utilities as players in this.

Thank you.
[The prepared statement of Mr. Ray follows:]

PREPARED STATEMENT OF WILLIAM J. RAY

Mr. Chairman and Members of the Committee, my name is William J. Ray, and am Superintendent of the Glasgow, Kentucky, Electric Plant Board. I am appearing today on behalf of the American Public Power Association, the national service organization representing more than 1,750 local, not4or-profit, publicly owned electric utilities. APPA appreciates this opportunity to testify on the National Information Infrastructure (NII) in general, and S. 1822 in particular.

SUMMARY OF APPA POSITION ON S. 1822

APPA not only recognizes the many public benefits to be gained by construction and implementation of a national information infrastructure, many of its members expect to be active participants in construction and operation of the NII. Attached is a resolution adopted by APPA's Legislative and Resolutions Committee in January, setting forth the association's position on NII policy.

APPA supports S. 1822. It is an excellent starting point for development of the NII. There are several sections that deserve special mention:

. Section 103 requires all telecommunications carriers that use public rights of way to offer preferential rates to a range of public institutions, including state and local governments;

. Section 302 recognizes the right of electric and other utilities to provide telecommunications services; and

. Section 501 makes it clear that any local exchange carrier that provides video programming is subject to all the provisions of Title VI of the Communications Act of 1934, as amended ("the Act"), including the requirement to obtain a local franchise.

Changes in other sections could improve the legislation in ways that would enhance competition and promote universal service. Specifically:

. The definition of telecommunications services in Section 301 should be amended to clarify that it does not include leasing, on a private carrier basis, communications facilities to a third party;

. Section 302 should be amended to specify that any usual, customary and nondiscriminatory fees or conditions imposed by state or local government on the use of public poles, conduits, ducts and rights-of-way are not considered to be barriers to providing interstate or intrastate communications; and

. Section 302 should also be amended to prevent the provision prohibiting unreasonable discrimination among telecommunications carriers by state and local governments from being constructed to prevent or impair the leasing of excess capacity from a publicly owned communications system on a private carriage basis.

UTILITY ROLE IN DEVELOPMENT OF THE NII

All electric utilities, whether owned by units of state or local government, organized as electric cooperatives, or owned by private investors, are ideally positioned *354 to play a role in the construction of the NII. Electric utilities have the infrastructure in place to develop the NII, they have the ethic of universal service, and through their participation they will inject an additional element of competition in the delivery of telecommunications and information services.

Utilities have the greatest single industry requirement for "real-time" communications capabilities in the nation. To meet these information and system command-and-control needs, utilities have constructed sophisticated communications networks that include virtually all of the media that will be incorporated into the NII-fiber optic cable, coaxial cable, twisted pair copper wire, microwave trunked land/mobile radio systems and power line carrier. One APPA member, City Utilities of Springfield, Missouri, even has an experimental license from the Federal Communications Commission to incorporate personal communications services into its municipal communications system. Current estimates of the utility industry's operating expenditures for telecommunications range from $2 billion to $4 billion annually, growing by 25 percent or more each year.

The "traditional" elements of the telecommunications industry-local exchange carriers, alternative service providers and interexchange carriers in the telephone industry, and cable television systems-have not only taken notice of the electric utilities' telecommunications infrastructure, they have made extensive use of these facilities. According to the FCC's 1993 Fiber Deployment Update report, utilities provide in excess of 100,000 miles of fiber optic cable to communication carriers, either as primary circuits or redundant (backup) capacity.

The demands of the electric utility industry for telecommunications and information services are expected to increase in the future in order to implement energy conservation programs and to enhance the control, reliability and responsiveness of electrical service to the public, in the wake of the competitive environment formalized by the Energy Policy Act of 1992. Efficient operation and survival in a more competitive environment are driving utilities to develop new and enhance older communications networks. Computers and microprocessors will play an increasingly important role in improving distribution efficiency. Advanced distribution devices based on modern power electronics will replace mechanical devices that control power flow on distribution systems. Computer technology will make real-time pricing a reality in the near future. Sophisticated communications networks will be essential for utilities to capitalize on these investments.

Concurrent with the expansion of utility communication needs is the convergence of what has been to this point discrete communications services or markets. Thus, the communications facilities needed by utilities for load management and control operations are the same facilities that will carry telephone conversations, cable television entertainment and permit interactive communications.

Because the public, private and cooperative segments of the electric industry share this need for sophisticated, high-speed telecommunications and information systems, they have joined together, along with their public and private counterparts in the water and gas utilities, to form the Utilities Telecommunications Council (UTC). UTC develops and advocates the consensus positions of the utility industry on telecommunications policy. Other witnesses on today's panel have set forth these utility industry views on S. 1822 on behalf of UTC, and APPA endorses these consensus positions.

PUBLIC POWER'S INTEREST IN THE NII

While all electric utilities have telecommunications needs, the manner in which these needs are met differs greatly among public power systems. Some public power systems satisfy their communications requirements primarily by leasing capacity from third parties. Other APPA members rely on communications systems built only to satisfy their own needs. Still others have built communications systems using some capacity on those systems for their own internal needs and leasing excess capacity to others (acting as the owner of a conduit rather than a telecommunications or information service provider). Finally, some public power communities have built communications systems to serve their own needs and to provide other telecommunications and information services to community residents and businesses.

It is APPA's desire to ensure that whatever legislation is enacted, the diverse needs of the public power communities can be met. Specifically, this means that for those utilities who are likely to lease space over facilities owned by a third party, reasonable access terms, conditions and rates are required. For utilities that will develop and operate communications systems for their own use or to provide conduit but not content service to others, legislation should not saddle them with common carrier obligations. Nor should legislation place obstacles in the path to public ownership of new telecommunications facilities or the public provision of telecommunications ***355** services. Indeed, the goals of universal service and vigorous competition can be enhanced if such public ownership and involvement is encouraged.

THE UNIQUE ROLE OF PUBLIC OWNERSHIP

APPA's members bring additional assets to the NII table. An important role for the NII is the delivery of governmental information and services, including those provided by schools, libraries, museums, health care facilities and other not-or-profit public institutions. Public power systems are a part of local government, and they share the objectives and aims of the community-quality service delivered economically.

Publicly owned electric utilities are well suited to provide delivery of these governmental services through their communications infrastructure. Community owned telecommunications systems can supply common benefits shared by police and fire departments, water and sewer operations, public health programs, education and other public functions. These systems can stimulate industrial location and help retain existing businesses. They can enable the creation of a burglar/fire/health emergency system and provide direct communication to citizens. They knit together city services.

Making Universal Service Available Universally

One of the goals of the Administration and Congress is to ensure that the concept of universal service-that basic telecommunications services are available to all at an affordable price-is preserved in the development of the NII. The Administration and Congress have good reasons to express concerns about the possibilities that our citizens may be divided into information "haves" and "have-nots". Telephone companies and cable television systems, while eagerly identifying the prospects of providing new services in fields that were previously denied them, have been almost cavalier in announcing that they will first "wire" those industries and neighborhoods that promise the greatest return on their investment.

For example, Bell Atlantic announced early this year that it will begin offering its advanced, interactive services first to Montgomery County and Northern Virginia. Only after these "plump pumpkins" have been picked will the company move on to the District of Columbia, Prince Georges County, and other less affluent portions of the metropolitan Washington area. One can only wonder if they will ever get around to the small communities and rural areas outside the metropolitan areas that represent "slim pickings" in terms of revenues per customer and return on investment.

This attitude is very familiar to communities served by public power. The electric utility industry likes to brag that it was the originator of the concept of universal service. But the plain, hard truth is that universal electric service would never have developed on a timely basis in the absence of municipally owned utilities and rural electric cooperatives. When small cities, towns and rural communities got tired of waiting for a private company to extend service to their residents, the people took the matter into their own hands, organizing consumer owned utilities to provide electric service. Because these new utilities were consumer owned and not4or-profit, they were capable of serving small, isolated communities that private companies said they couldn't afford to serve.

A Yardstick for Competition

Consumer owned telecommunications systems and services can fulfill that same need in the NII-assuring that all consumers have access to the same telecommunications services regardless of their affluence or volume of business. But that answers only part of the question. How can Congress and the Administration ensure that even the small, isolated and less affluent communities receive the same quality of service at an affordable price that their more populous and affluent neighbors receive? The answer lies in encouraging organization of publicly owned communications infrastructure- whether through public power systems or other state or local agencies-and participation by these publicly owned systems in the development and operation of the NII.

These consumer owned, not-for-profit providers of telecommunications and information services can perform the same function as publicly owned electric utilities-providing a yardstick of competition against which to measure the price and quality of services provided by investor owned, for-profit providers of these services. In fact, the Glasgow Electric Plant Board proved the value of publicly owned systems in this regard, beginning with cable television.

In testimony before the Committee last year, I explained how Glasgow's public power system extended the "yardstick of competition" concept from electric power rates to cable television. In the 1980s, Glasgow, a community of 13,000 residents, ***356** was served-but not very well-by a single, for-profit cable company. The citizens were unhappy with the quality and the price of their cable TV service, so they turned to their municipally owned electric system for help. This plea from the public coincided with the city utility's recognition of the need for an effective demand-side management and load shedding system to avoid huge increases in power costs driven by surges in peak power demand. The Glasgow Electric Plant Board recognized that the same coaxial cable system used to deliver television programming could also be utilized by citizens to manage their power purchases. So our municipally owned electric utility built its coaxial distribution control system which also provides a competing, consumer- owned cable TV system. This new system not only allowed consumers to purchase electricity in real time and lower their

peak electrical demand, thus saving money on their electric bills, it provided twice as many television channels as the competing, for-profit cable company at not-for-profit rates-and delivered better service. to boot. Big surprise-the private company decided to drop its rates by roughly 50 percent and improve its service, too.

But the Glasgow Electric Plant Board didn't stop there. We wired the public schools, providing a two-way, high-speed digital link to every classroom in the city. We are now offering high-speed network services for personal computers that give consumers access to the local schools' educational resources and the local libraries. Soon this service will allow banking and shopping from home, as well as access to all local government information and data bases. We are now providing digital telephone service over our system. That's right-in Glasgow, everyone can now choose to buy their dial tone from either GTE or the Glasgow Electric Plant Board.

The people of Glasgow won't have to wait to be connected to the information superhighway. They're already enjoying the benefits of a two-way, digital, broadband communications system. And it was made possible by the municipally owned electric system.

The Long And The Short Of It

While public power systems played a particularly important role in providing electric service to smaller and more isolated communities, their value and their existence is not limited just to these environs. Indeed, APPA counts among its membership such large public power systems as the South Carolina Public Service Authority, the Los Angeles Department of Water and Power and the Sacramento Municipal Utility District in California, the Salt River Project in Arizona, the Lower Colorado River Authority in Texas, the Jacksonville Energy Agency in Florida and others.

Public ownership of electric distribution systems is just as important in large cities as in small, rural towns. Public power brings the same benefits, regardless of the population of the community it serves-lower rates, consumer ownership, not-for-profit organization, and better service, among many others.

Just as public ownership of electric utilities should not be restricted to only smaller communities, nor should public ownership of communications infrastructure be limited. Indeed, the larger public power systems have developed some of the most sophisticated, state-of-the-art communications system. Their consumers, too, are enjoying the benefits of public ownership and are positioned to enjoy the rewards of high-speed voice, data and video services delivered in whole or in part over publicly owned infrastructure.

What's Past Is Prologue

The importance of maintaining the option of public ownership of telecommunications systems is even more important in the deregulation environment that S. 1822 embraces.

To the credit of its authors, S. 1822 would reduce or minimize regulation of telecommunication service providers only in those instances when such providers do not control market power. APPA concurs that vigorous, healthy competition is a preferred alternative to regulation-but only to the extent that consumer owned systems exist to provide the yardstick against which to gauge the rates and quality of service offered by for-profit service providers, and that regulation is maintained for those entities that exercise market power.